

Remarks

Applicants affirm the earlier telephonic election to prosecute the invention of Claims 1-11. Claims 12-19 directed to the non-elected invention have been cancelled without prejudice.

The specification has been amended to insert the Patent Number of the application referred to on page 12.

All of the claims remaining in the application are directed to compositions comprised of the polypropylene base resin, incompatible polymer and grafted propylene-ethylene impact copolymer compatibilizing agent. In view of this, Applicants submit the Examiner's contention that the claims are directed to patentably distinct species is improper and the requirement to elect a single disclosed species should be withdrawn.

It is well recognized by those skilled in the art that incompatibility problems observed when combining different polymer types is primarily due to differences in polarity of the polymer molecules. Whereas it is generally possible to obtain uniform blends of polyolefins (which have little or no polarity), compatibility issues arise when attempting to blend polyolefins with polar polymers. If the degree of incompatibility is sufficiently great, the polymers will exist as essentially separate phases in the blended product. All of the polymers recited for component (b) are considered by those skilled in the art to have sufficient polarity to create compatibility problems when incorporating in polyolefin-based systems.

For the above reasons it is Applicants' belief that the polymer species are not patentably distinct. However, consistent with the requirement of 35 USC 121 Applicants nevertheless elect the polyamide polymers. Claim 9, Claim 11 and newly added Claim 20 are readable thereon.

The claims have been extensively amended. Claim 1 now specifies the tacticity index and MFR of the polypropylene base resin. The claim has also been amended so that it is now directed to compositions where the base resin is combined with incompatible polymers. Moreover, the incompatible polymers are identified. Lastly, the graft component is now specified to be a propylene-ethylene impact copolymer which is a reactor-made intimate mixture of homopolymer and copolymer. Basis for all of the amendments are found in previously presented claims, namely Claims 2, 4 and 8, which have now been cancelled. Dependencies of Claims 3, 5, 6, 9 and 11 have been changed accordingly.

In view of the amended claim language and removal of the term “filler-type,” the rejection under 35 USC 112 at page 3 of the office action in this regard is no longer applicable.

The rejection under 35 USC 112 based on use of the term “graft to melt flow ratio” is respectfully traversed and reconsideration requested. The term is fully explained in the specification on page 12. The ratio is determined in accordance with the formula set forth at line 5 of page 12. As the Examiner will note from the formula, the term “graft” is the short-hand term for weight percent of monomer grafted. It is, in fact, a number which when divided by the MFR provides a number which is a measure of the ability to obtain higher graft content materials while maintaining desirable low MFRs. This concept is more fully explained in Applicants’ U.S. Patent No. 6,716,928 which was incorporated by reference. Since ratios are proportions, simply expressing the relationship in quantity, amount or size between two or more things, no units are applicable.

The rejection of the claims under 35 USC 103(b) as being anticipated by Chundury, et al., is respectfully traversed and reconsideration requested. While the Examiner has correctly observed that “Control D” in the Chundury, et al., reference contains polypropylene, nylon and maleated compatibilizing agent, the compatibilizing agent is not the same as employed for Applicants’ invention. In the first place the graft

component is a rubber (elastomer). Secondly, it contains 43% ethylene. Lastly, the maleated elastomer has only 0.43% maleic anhydride grafted. This is in no way anticipatory of Applicants' compositions wherein the compatibilizing component is an impact copolymer comprised of PP homopolymer and ethylene/propylene copolymer having an anhydride content of 1 weight percent or more.

Furthermore, there is no disclosure by Chundury, et al., to the use of "reactor-made" propylene-ethylene impact copolymers. The interpretation of this terminology must be construed consistent with its art-recognized usage. As those skilled in the art are aware, impact copolymers can be obtained by physically blending individual and separately produced polymer components or by procedures where both polymer components are produced in a single polymerization operation so that the product exiting the polymerization process is already a mixture. It is in this latter context that the art-recognized term "reactor-made intimate mixture" is used and construed by the skilled artisan.

In view of the foregoing, Applicants respectfully request the rejection under 35 USC 103(a) be withdrawn.

The rejection of the claims under 35 USC 103(a) as being unpatentable over Chundury, et al., in view of the Ross, et al., article is respectfully traversed and reconsideration requested. As pointed out above, Chundury, et al., does not disclose the use of grafted propylene-ethylene impact copolymers or, for that matter, any maleated material which is a mixture of polypropylene homopolymer and ethylene/propylene copolymer. Also, the use of copolymers having ethylene contents less than 43% is not suggested or disclosed for any purpose.

Whereas Ross, et al., disclose reactor-made propylene-ethylene copolymers of the type employed by Applicants for their compositions, there is no disclosure or suggestion in the Ross, et al., reference that the reactor-made compositions can be maleated or that any advantage may be realized thereby. Clearly, there is not even the remotest

suggestion that the Ross, et al., reactor-made compositions can be maleated and employed as compatibilizers for polypropylene/nylon (or other incompatible polymers) blends of the type disclosed by Chundury, et al. Ross, et al., are only concerned with the production of the improved impact copolymers. There is nothing in the Ross, et al., reference and that of Chundury, et al., that would reasonably motivate the person skilled in the art to make the quantum leap of connecting them and to maleate the reactor-produced products and then utilize them as compatibilizers in systems of the type disclosed by Chundury, et al. Even if for the sake of argument this were the case, the use of Applicants' specific grafted impact copolymers having the specified ethylene contents, MWDs and graft to MFR ratios would not be obvious to one skilled in the art.

For the foregoing reasons Applicants respectfully request reconsideration and withdrawal of the rejection under 35 USC 103(a).

In view of the amendments to the claims and above remarks, it is Applicants' belief all of the claims remaining in the application are in condition for allowance and favorable action is requested. Should the Examiner wish to discuss the foregoing or any matter of form in an effort to advance the application toward allowance, he is urged to telephone the undersigned at the indicated number.

Respectfully submitted,



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